NAVAIR

Patuxent River, MD

NAVAIR Patuxent River is one of eight Naval Air Systems Command sites that provides cost-wise readiness and dominant maritime combat power to make a great Navy/Marine Corps team better. Patuxent River is home to both the Naval Air Systems Command headquarters and the Naval Air Warfare Center Aircraft Division, and is host to more than 50 tenants including other armed services, federal agencies and private industry.

Mission

NAVAIR Patuxent River, including Aircraft Division and the Webster Field Annex, supports NAVAIR in providing unsurpassed products and services to the fleet. Patuxent River provides effective and affordable integrated warfare systems and life cycle support by performing research, development, test and evaluation, engineering and fleet support for manned and unmanned aircraft, engines, avionics, aircraft support systems and ship/shore/air operations.

Products and Services

Air Combat Systems RDT&E

- Full range of acquisition support for air combat systems ranging from basic research to in-service engineering and logistics (a unique service within the Department of Defense)
- NAWCAD Test Wing Atlantic program support including U.S. Naval Test Pilot School, Air Test and Evaluation Squadron Two Zero, Air Test and Evaluation Squadron Two One and Air Test and Evaluation Squadron Two Three

Air Vehicle Research and Development

- Air Vehicle Materials program and product support, including adhesive bonding and technology, landing gear composites, organic coatings and surface interactions
- Air Vehicle test and materials analysis/non-destructive testing, failure analysis, engineering investigations, composite repair and coating evaluations
- Dynamic Radar Cross Section Measurements services and program support
- Installed engine performance and integrated airframe-engine testing; propulsion systems evaluation

Aircraft Platform Systems Integration

- The Air Combat Environment Test & Evaluation Facility (ACETEF) is a unique, installed-systems, ground-test facility, which consists of anechoic chambers surrounded by aircraft simulation, warfare simulation, threat and electronic combat stimulation, communication stimulation and sensor stimulation facilities
- The Atlantic Range Facility provides Electronic Warfare flight test capabilities, including EW sensor stimulation and measurements
- State of the art Electromagnetic Environmental Effects (E_3) testing to ensure all aircraft avionics are compatible with other systems onboard the aircraft and with their intended operational environment
- NAVAIR Ranges & Facilities at Patuxent River provides an open-air range environment, ground-based simulation and stimulation facilities, and component test laboratories, establishing Patuxent River as a Major Ranges & Test Facility Base, a national asset

- The Atlantic Test Ranges are fully-instrumented, integrated, open-air ranges that provide full spectrum testing and training support, including research, development, test, evaluation, and training of aircraft/aircrew and integrated avionics and mission systems
- Avionics/Mission and Sensors technical support including antenna, ship/shore communications and electronics systems, combat and communication systems, ship's signal exploitation space equipment suites testing, and in-service engineering for AEGIS CG 47 and DDG 51 class ships.
- Catapult and Arresting Gear complex for carrier suitability testing

People

With a work force of more than 10,700 personnel, NAVAIR Patuxent River employs 7,600 civilian employees and about 3,100 active-duty military personnel. Patuxent River is the largest employer in St. Mary's County.

Facilities

The air combat systems development functions conducted at Patuxent River require sea level conditions, a varied climate and a location near the sea to produce the test conditions essential for naval aviation technology development. The climatic and geographic conditions unique to Patuxent River are crucial for the proper performance testing of both fixed-wing and rotary-wing vehicles in preparation for operations in the maritime environment. Facilities facts include:

- Patuxent River encompasses over 13,800 acres and houses 935 buildings (including 10 hangars, totaling more than 8.76 million square feet)
- Five active runways, the longest being 11,800 feet, provide a gateway to 780 square miles of restricted and 5,000 square miles of controlled airspace to an altitude of 85,000 feet
- Access to nearby VACAPES warning areas off the coast makes almost 50,000 square miles available for testing and training operations
- Estimated value of the facilities located on Patuxent River and Webster Field is $2.8 billion.

Accomplishments

- To meet the challenging flight test workload coming in the near future, especially the Joint Strike Fighter, the Atlantic Test Ranges have developed the next generation Real-time Telemetry Processing System. First flight with the new system, entitled RTPS IV, took place in 2004. RTPS IV has many new features, including bigger and better Project Engineer Stations, and has built-in compliance with applicable IRIG Telemetry Standards. The capacity for ten simultaneous tests coupled with the ability to convert from one project to the next in a matter of minutes means RTPS IV will handle more than 25 highly complex yet totally different flight tests a day.

- Atlantic Test Ranges' new Secure Annex allows flight testing for programs with unique security requirements, most notably the Joint Strike Fighter. The Annex provides secure space for electronic warfare workstations, radar cross-section measurements, infrared measurement systems, telemetry project engineer stations, and range control stations.
- The PRISM (Patuxent River Infrared Signature Measurement) system surface-to-air infrared (IR) signature measurement facility has been designed in-house by Navy engineers and technicians at the Atlantic Test Ranges. The IR facility has participated in several full-scale signature measurement flight tests. Using two major components, the data acquisition trailer and the Kineto Tracking Mount, the PRISM system is capable of signature measurements in the short-wave, mid-wave and long-wave infrared bands for both moving and stationary targets. By combining ATR Time Space

Position Information, Telemetry, GPS, and weather assets with a suite of state-of-the-art infrared spectrometers and imagers, the PRISM system can measure the IR signature of any rotary- or fixed-wing aircraft, UAV, UCAV, missile or engine in several IR bands.

- The Lockheed Martin X-35C and Boeing X-32B Joint Strike Fighter concept demonstrators successfully completed all government flight test requirements at NAVAIR Patuxent River.
- All five H-1 Upgrades EMD aircraft are now in active flight tests at Patuxent River and have recently achieved more than 2,500 flight hours. The PMA-276 team manages the acquisition and development of the transformational AH-1Z and UH-1Y, as well as legacy AH-1W and UH-1N platforms that are poised to lead Marine Corps rotary wing close air support well into the 21st century.
- PEO(A) recently conducted an operational test readiness review for the V-22 program and declared the *Osprey* ready for operational test. Since return to flight in May 2002, the V-22 Integrated Test Team has flown more than 2,100 developmental flight test hours.
- The P-3 "Hairy Buffalo" real time search and tracking system was successfully developed and tested at Patuxent River. The P-3 "Hairy Buffalo" system allows warfighters to create real time stand-off images of surface targets allowing strike aircraft to hunt and kill mobile surface enemies.
- The F/A-18E/F Super Hornet successfully conducted follow-on flight testing; supporting all program objectives.

FOR MORE INFORMATION, CONTACT:

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